

Claims

- [c1] 1. A DC level wandering cancellation circuit, comprising:
a low pass filter, for receiving an input voltage;
a high pass filter coupled to the low pass filter;
an amplifier coupled to the high pass filter for receiving a reference voltage and an output signal of the high pass filter;
a comparator coupled to the amplifier for receiving an output signal of the amplifier to compare the reference voltage with the output signal of the amplifier;
a resistor coupled between outputs of the high pass filter and the amplifier;
a control logic coupled to the comparator for receiving a compared result from the comparator; and
a switching means coupled between the high pass filter and the output of the amplifier, wherein the switching means is turned on for a predetermined interval by the control logic according to the compared result.
- [c2] 2. The DC level wandering cancellation circuit of claim 1, wherein when the compared result from the comparator is from a high level to a low level, or from a low level to a high level, an output signal of the control logic changes

to a high level to turn on the switching means.

- [c3] 3. The DC level wandering cancellation circuit of claim 2, wherein the switching means is a transistor.
- [c4] 4. The DC level wandering cancellation circuit of claim 1, wherein the low pass filter further comprises a first resistor and a first capacitor connected in parallel, and the high pass filter further comprises a second resistor and a second capacitor connected in series, wherein the second capacitor is coupled between the first and the second resistors.
- [c5] 5. The DC level wandering cancellation circuit of claim 4, wherein the switching means is coupled between the control logic and a node between the second capacitor and the second resistor.
- [c6] 6. The DC level wandering cancellation circuit of claim 1, wherein the control logic further comprises:
 - a first inverter for receiving the compared result from the comparator;
 - a second inverter coupled to an output terminal of the first inverter;
 - a XOR gate configured to receive an output signal of the second inverter and the compared result from the comparator;

a first NOR gate, having a first input terminal coupled to an output terminal of the XOR gate, and a second input terminal;

a second NOR gate, having a first input terminal coupled to an output terminal of the first NOR gate, a second input terminal, and an output terminal coupled to the second input terminal of the first NOR gate;

a first D-type flip flop, having an input terminal coupled to the output terminal of the second NOR gate, an output terminal, and a clock input terminal; and

a second D-type flip flop, having an input terminal coupled to the output terminal of the first D-type flip flop, an output terminal coupled to the second input terminal of the second NOR gate, and a clock input terminal coupled to the clock input terminal of the first D-type flip flop for receiving a clock signal.

[c7] 7. A DC level wandering cancellation method for a circuit having an inverting-gain amplifier, the method comprising:

comparing an output signal of the inverting-gain amplifier with a reference voltage; and

feeding back the output signal of the inverting-gain amplifier to the inverting-gain amplifier when there is a state change in the compared result.

[c8] 8. The DC level wandering cancellation method of claim 7, wherein the state change is a level changed from high to low, or from low to high.